

# Enhancing Rooftop Solar Efficiency using a Thermal Barrier Roof Coating

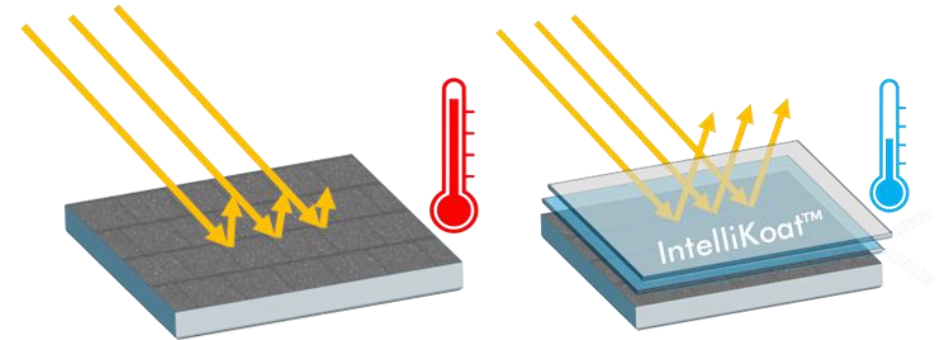
Thermally optimized roof coating system that enhances solar panel efficiency and extends roof lifespan, driving down costs and boosting renewable energy performance.

## Problem:

- Solar panels lose efficiency (up to 0.5%/°C) in high temperatures, leading to 10-25% energy loss in hot climates.
- Existing cooling solutions are **costly, complex**, and don't address roof surface heat buildup.

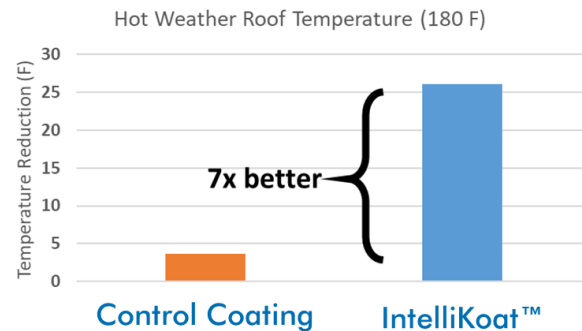
## Solution: IntelliKoat™ System

- **UV/Weather-Resistant Layer:** Protects roof and solar panels from environmental degradation, extending lifespan.
- **Thermal Barrier Layer:** Reduces rooftop temperature by 10-15°C, boosting solar panel efficiency by 3-5%.
- **Cost-Effective Retrofit:** Simple application, improves solar output and roof longevity.



## Key Accomplishments:

**Validated by NSF & NREL:** IntelliKoat™ reduced energy costs by 30%, extended roof life. NREL testing shows IntelliKoat™ is 7x better than the leading competitor at reducing high temperatures.



## Market Impact:

### Target Market:

- **Commercial:** 55B sq. ft. of flat roof space in the U.S. commercial market
- **Residential:** Millions of homes with flat roofs across the U.S. facing similar solar efficiency challenges

**Carbon Reduction:** Enhances renewable energy output, reduces cooling costs, and supports sustainability goals.

## Team Expertise:

**Dr. Matthew J. Aguayo (CEO) & Dr. Aashay Arora (CTO)** experts in advanced materials and energy efficiency, with successful NSF-funded projects.

